(2)

Cultural Resource Management Report

INITIAL GROUP OF PROPOSED BORROW AREAS,
FOR RURAL IMPROVEMENTS, STAGE 1,
SOURIS RIVER BASIN PROJECT,
MCHENRY COUNTY, NORTH DAKOTA

Lead Field Investigator Mervin G. Floodman, M.A.

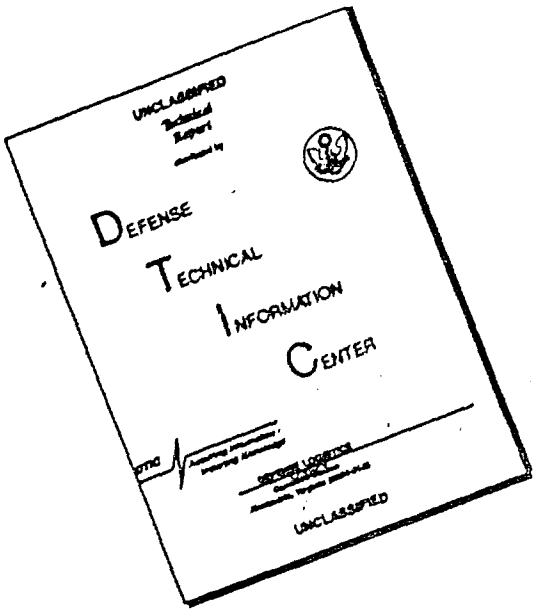
Principal Investigator Mervin G. Floodman, M.A.

Date 7-10-89 **For** U.S. Army Corps of Engineers
St. Paul District

POWERS ELEVATION CO., INC.
P.O. Box 440839
Aurora, CO 80044
(303) 321-2217

Archaeology Department

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188
Exp. Date: Jun 30, 1986

1a REPORT SECURITY CLASSIFICATION: Unclassified	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT: Approved for public release; distribution unlimited.
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION: Powers Elevation Co., Inc 6b OFFICE SYMBOL (If applicable)	7a NAME OF MONITORING ORGANIZATION: U.S. Army Engineer District, St Paul
6c ADDRESS (City, State, and ZIP Code): Archaeology Dept. PO Box 440889 Aurora, CO 80044	7b ADDRESS (City, State, and ZIP Code): 1421 USPO & Custom House St Paul, MN 55101
8a NAME OF FUNDING/SPONSORING ORGANIZATION 8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER: DACW37-89-M-0751
8c ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO / PROJECT NO / TASK NO / WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
PHASE I CULTURAL RESOURCES INVESTIGATION OF INITIAL GROUP OF PROPOSED BORROW AREAS, FOR RURAL IMPROVEMNTS, STAGE I, SOURIS RIVER BASIN PROJECT, MCHENRY COUNTY, NORTH DAKOTA

12 PERSONAL AUTHOR(S)
Mervin G. Floodman

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Final	FROM _____ TO _____	890710	

16 SUPPLEMENTARY NOTATION

17 COSATI CODES		
FIELD	GROUP	SUB GROUP

18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
Archaeology
Flood Control
Souris River (North Dakota)

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

The Souris River Basin Project in North Dakota is a flood control project to protect both urban and rural reaches of the Souris River. This report is a cultural resources inventory for a series of initial borrow areas, sand, gravel sources selected for use in connection with the mitigation of project impacts to farmsteads and rural residences in McHenry County. No cultural materials or sites were recorded in the survey of the seven proposed borrow areas.

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION: Unclassified
22a NAME OF RESPONSIBLE INDIVIDUAL	22b TELEPHONE (Include Area Code) / 22c OFFICE SYMBOL

Powers Elevation Co., Inc.

PO Box 440889, Aurora, CO 80044
Phone 303-321-2217
Toll Free 1-800-824-2550
FAX 303-321-2217

FINAL REPORT OF PHASE I CULTURAL RESOURCES INVESTIGATION OF INITIAL GROUP OF PROPOSED BORROW AREAS, FOR RURAL IMPROVEMENTS, STAGE 1, SOURIS RIVER BASIN PROJECT, MCHENRY COUNTY, NORTH DAKOTA

By:

Mervin G. Floodman, M.A.

Submitted By:

ARCHAEOLOGY DEPARTMENT
POWERS ELEVATION CO., INC.
P.O. Box 440889
Aurora, Colorado 80014

Performed Under:

Contract No. DACW27-89-M-0751

Submitted To:

U.S. ARMY CORPS OF ENGINEERS
ST. PAUL DISTRICT
1135 U.S. Post Office and Custom House
St. Paul, Minnesota 55101

Date:

July 15, 1989

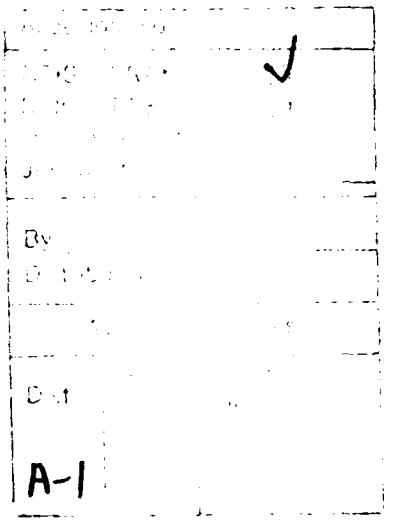


TABLE OF CONTENTS

Title	Page Number
LIST OF FIGURES	iv
LIST OF TABLES	iv
1.0 INTRODUCTION	1
2.0 ENVIRONMENTAL SETTING	10
2.1 PHYSIOGRAPHY AND GEOLOGY	10
2.2 VEGETATION	12
3.0 SUMMARY OF PREVIOUS INVESTIGATIONS	12
4.0 CULTURAL OVERVIEW	13
4.1 PREHISTORIC OVERVIEW	13
4.2 HISTORIC OVERVIEW	14
5.0 GENERAL FIELD METHODOLOGY	14
6.0 BORROW AREAS AND RESULTS	15
6.1 BORROW AREA #1 NE¼NE¼NE¼ SECTION 11, T.157N., R.76W. 10 ACRES	15
6.2 SAND/GRAVEL #2 SW¼SW¼ SECTION 14, T.157N., R.76W. 20 ACRES	16
6.3 BORROW AREA #3 SE¼NE¼NW¼ SECTION 6, T.154N., R.77W. 8 ACRES	17
6.4 SAND/GRAVEL #4 NW¼NE¼ SECTION 28, T.155N., R.77W. 12 ACRES	17
6.5 BORROW AREA #5 SW¼NE¼SW¼ SECTION 27, T.155N., R. W. 5 ACRES	18
6.6 BORROW AREA # 7¼NE¼NW¼ SECTION 26, T.155N., R. . 9 ACRES	18
6.7 BORROW AREA #7 SW¼ SECTION 24, T.155N., R.77W. 8 ACRES	19
7.0 CONCLUSIONS AND RECOMMENDATIONS	19
8.0 REFERENCES CITED	20
APPENDIX--SCOPE OF WORK	22

LIST OF FIGURES

Figure Number	Figure Title	Page Number
1	Map of Project Areas 1 and 2	2
2	Map of Project Areas 3-7	3
3	Borrow Area #1, Photographic Overviews . .	4
4	Borrow Area #2, Photographic Overviews . .	5
5	Borrow Area #3, Photographic Overview . .	6
6	Borrow Area #4, Photographic Overviews . .	7
7	Borrow Area #5, Photographic Overviews . .	8
8	Borrow Area #7, Photographic Overview . .	9

LIST OF TABLES

Table Number	Table Title	Page Number
1	Project Areas in McHenry County, North Dakota	10

1.0 INTRODUCTION

The Souris River Basin Project in North Dakota is a flood control measure to protect both urban and rural reaches of the Souris River. Flood control features in both Canada and the United States are involved. In Canada, the Alameda and Rafferty reservoirs will be constructed for storage of flood waters and will also include the operation of a diversion channel between the Boundary reservoir and the Rafferty reservoir (COE 1989).

In the United States, project features include the modification of the gated outlet at the existing Lake Darling dam, structural improvements to various dams, spillways and other structures to mitigate effects to U.S. Fish and Wildlife lands in the Upper Souris and J. Clark Salyer Wildlife Refuges, mitigation of effects to rural farmsteads both upstream and downstream of Lake Darling and a water control plan for release of water downstream. Flood control levees will also be constructed at Renville County Park, at Sawyer and Velva, and between Burlington and Minot. When completed in 1991, the project will provide water supply and flood control benefits to Saskatchewan, Canada, and provide 100 year flood protection to the city of Minot, North Dakota. It will also reduce flood damages along the main stream of the Souris River in North Dakota (COE 1989). Most of the cultural resources investigations for these projects have already been completed.

The current contract no. DACW37-89-M-0751 is a cultural resources inventory for a series of initial borrow areas, sand and gravel sources selected for use in connection with the mitigation of project impacts to farmsteads and rural residences in McHenry County. Proposed actions of mitigation include raising access roads, constructing ring levees around farm and rural residences, raising primary farm and rural residences and the acquisition of some farm and rural residences. Farm outbuildings are not protected by the project. The purpose of the mitigation measures are to alleviate damages from increased discharges from Canadian dams upstream. Farms will not be protected from existing flood events. The actual farmsteads and rural residences effected by the project were inventoried for cultural resources in 1988.

A total of seven small borrow areas and sand/gravel sources were inventoried by this project. The projects ranged in size from 5 acres to 20 acres. A total of 72 acres were inventoried for the project. The locations of the project areas are shown in Figures 1 and 2. Photographic overviews of the areas surveyed are provided in Figures 3-8. The specific locations and sizes of the projects are given in Table 1.

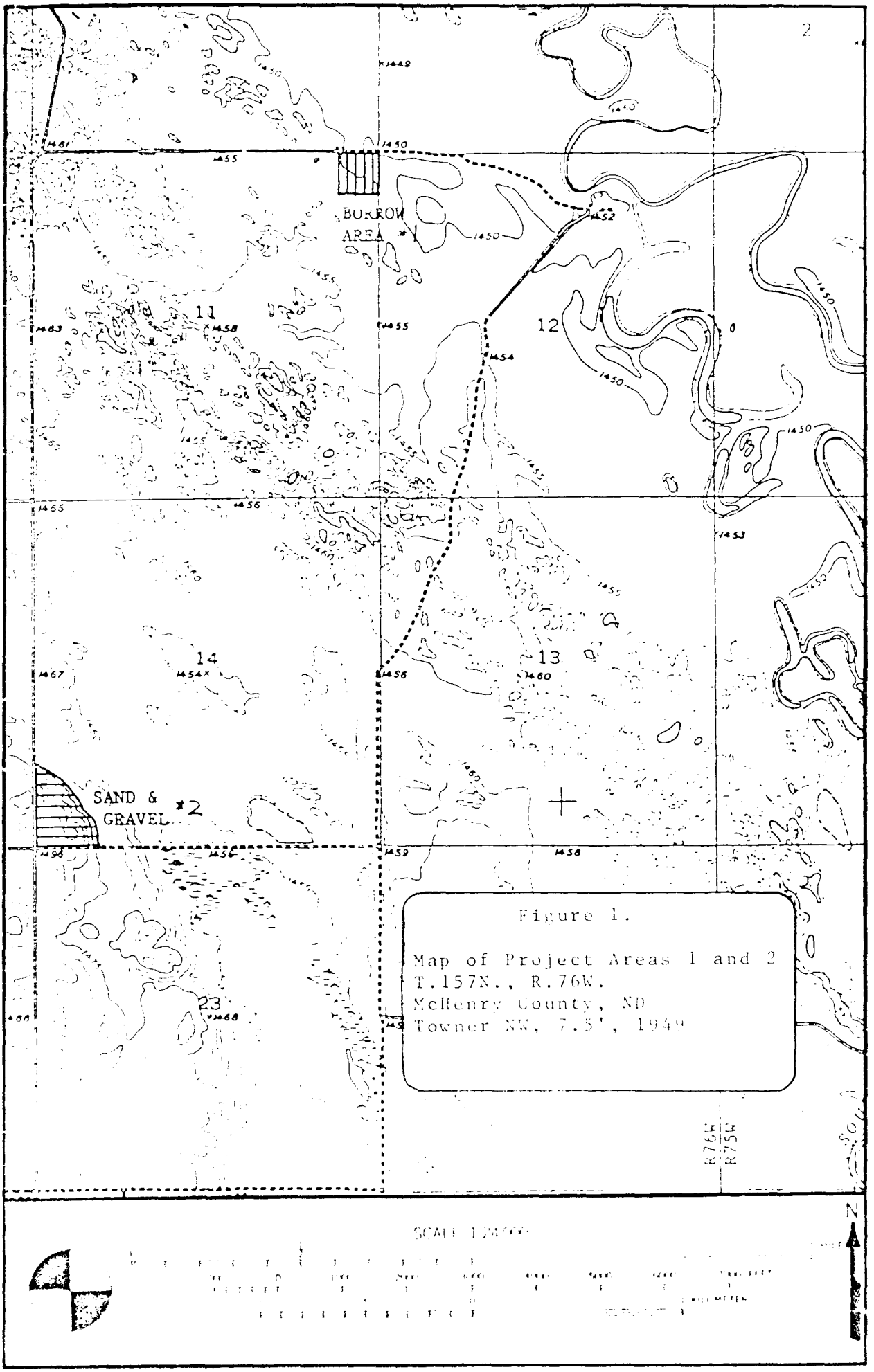
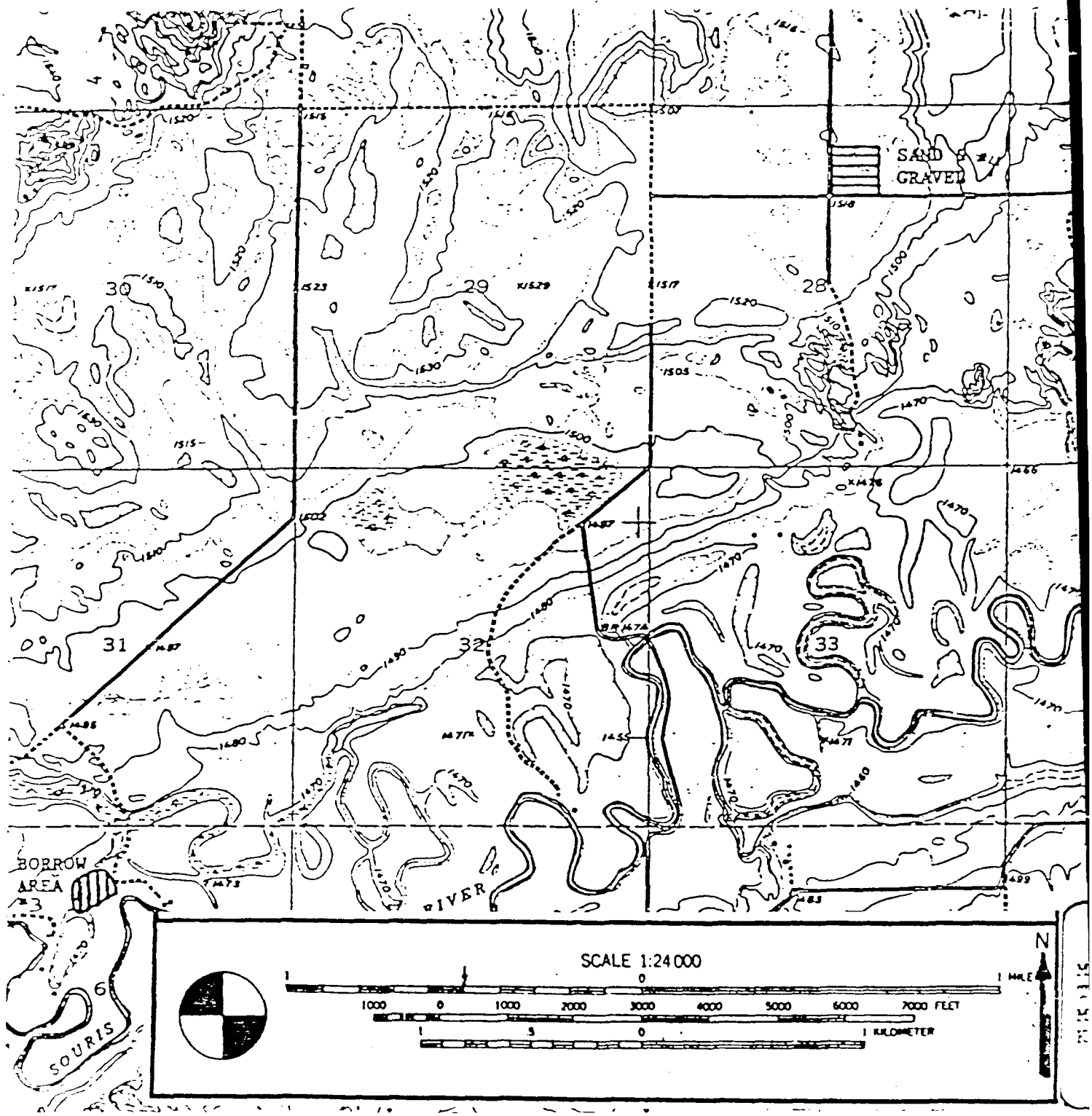


Figure 1.

Map of Project Areas 1 and 2
T.157N., R.76W.
McHenry County, ND
Towner NW, 7.5', 1949


SAND & GRAVEL
30
29
28
31
32
33
BORROW AREA 3
6
SOURIS
RIVER
SCALE 1:24 000
1 0 1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 0 1 KILOMETER
N

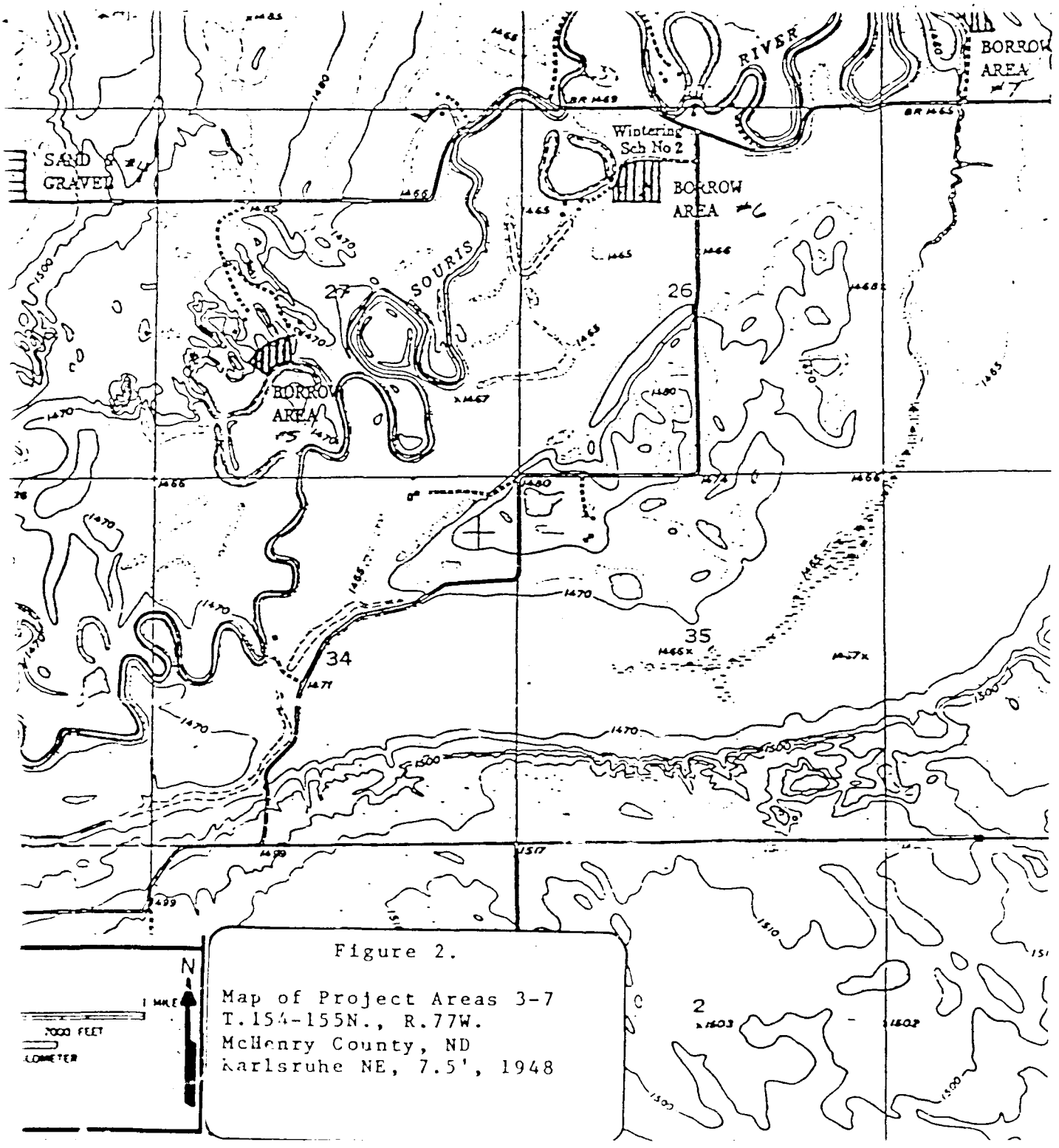
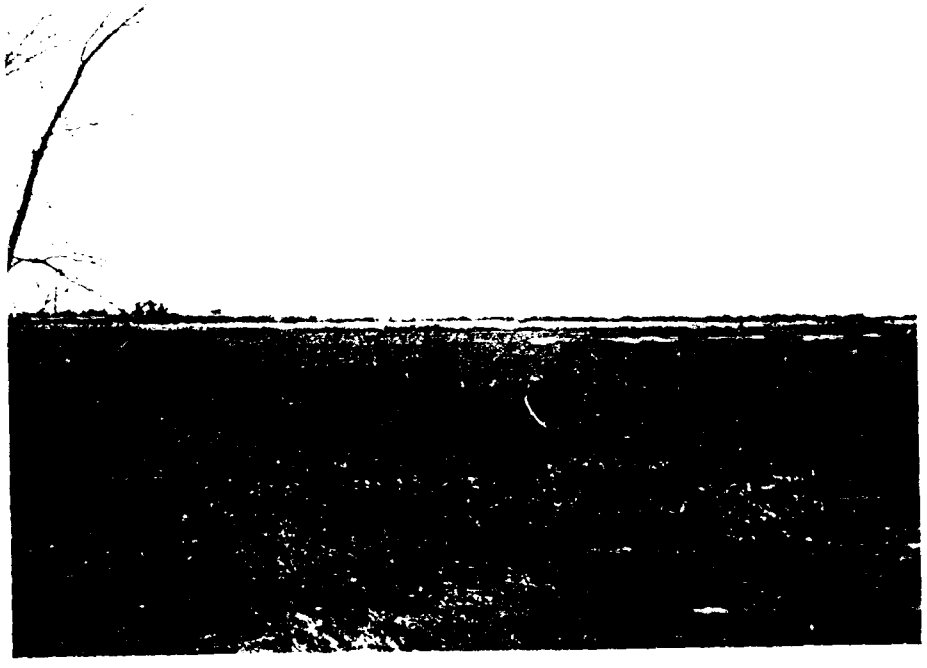


Figure 2.

Map of Project Areas 3-7
T.154-155N., R.77W.
McHenry County, ND
Karlsruhe NE, 7.5', 1948



Facing west northwest.

Facing northwest.

TABLE 1. PROJECT AREAS IN MCHENRY COUNTY, NORTH DAKOTA

1)	Borrow Area	NE¼NE¼NE¼	Section 11 T.157N., R.76W.	10 acres
2)	Sand/Gravel	SW¼SW¼	Section 14 T.157N., R.76W.	20 acres
3)	Borrow Area	SE¼NE¼NW¼	Section 6 T.154N., R.77W.	8 acres
4)	Sand/Gravel	NW¼NE¼	Section 28 T.155N., R.77W.	12 acres
5)	Borrow Area	SW¼NE¼SW¼	Section 27 T.155N., R.77W.	5 acres
6)	Borrow Area	SW¼NE¼NW¼	Section 26 T.155N., R.77W.	9 acres
7)	Borrow Area	SE¼NW¼SW¼	Section 24 T.155N., R.77W.	8 acres
		SW¼NE¼SW¼	Section 24 T.155N., R.77W.	
		NE¼SW¼SW¼	Section 24 T.155N., R.77W.	
		NW¼SE¼SW¼	Section 24 T.155N., R.77W.	

The contract was awarded to Powers Elevation Co., Inc., in April, 1989. The phase I inventory of the areas was conducted by Mervin G. Floodman of Powers on May 3-4, 1989. A total of two person days were expended by the field effort. The field work was accomplished according to the scope-of-work in Appendix A. No artifacts were collected.

The report provides a summary of previous archaeological and historical studies in the project areas, describes the regional environment, describes the field methods, provides a detailed description of the inventory areas and results, and recommends future work necessary as a result of the project findings.

2.0 ENVIRONMENTAL SETTING

The environmental setting of the Souris River Basin was fully outlined in Powers' 1982 survey report (Floodman et al. 1985). The following discussion is a brief summary localized to the project areas in McHenry County, North Dakota.

2.1 PHYSIOGRAPHY AND GEOLOGY

McHenry County is located mainly on the Glaciated Plains region. All of the project areas are confined to this region. The Glaciated Plains are an area of undulating to flat topography of low relief. The modern landscape is the surface formed by a Wisconsinan glacier which covered the area and by the area covered by Glacial Lake Souris which flooded most of the northern half of the county. The Pleistocene Coleharbor Group of glacial origin averages about 100 feet in thickness. The southwestern corner of the county is part of the Missouri Coteau, an area characterized by hilly, collapsed glacial sediments with numerous sloughs and rolling hills. These areas are delimited by the Missouri Escarpment which crosses the southwestern corner of McHenry County some 400 feet above the Glaciated Plains to the north and east (Bluemle 1982). The Souris River valley is entrenched into the glacial plain about 150 feet and is generally less than 50 feet deep across the former glacial lake bed.

Most of McHenry County has low to moderate relief. Relief is greatest in the areas of dune fields over the former Glacial Lake Souris plain, where the topography may vary 50 to 100 feet locally. The ice-thrust margins of the Missouri Coteau also has higher relief and may exceed 100 feet in places. Elevations of 1600 feet are common on the low till plain of McHenry County and range from 1450 to 1500 feet over the former lake bed. The highest elevations occur in the southwestern corner in the Missouri Coteau with elevations over 2000 feet.

The project areas are found in several areas of the county and cover several geologic processes of formation. The project borrow areas and the processes of formation are considered individually below.

Sand and gravel borrow area #2 is located on an area defined by Bluemle (1982) as part of the Pleistocene Coleharbor Group of a silt facies. The area consists of large amounts of sand and gravel found along the former shoreline of Glacial Lake Souris. It is a broad, transitional area of nearshore silt and sand. These deposits grade into nearshore sands and are obscured on the offshore side by aeolian mantles. The soils consist of silts and fine sands.

Sand and gravel borrow area #4 is also in an area defined as Pleistocene Coleharbor Group of a sand and gravel facies (Bluemle 1982). The soils are a dense gravel. The landform is a flat, fluvial plain. The gravels were deposited by moving water--both meltwater and non-meltwater rivers. The gravel is not really an outwash deposit in this project area, as the gravels were deposited by floods of water flowing from glacial Lake Regina to the northwest of the area. No clear way to properly differentiate the gravels is currently known.

Borrow Areas #1 and #5 are defined by Bluemle (1982) as an Oahe Formation silt and sand facies. The areas consist of an aeolian deposited sand found in areas of the former glacial Lake Souris Plain. The plain is heavily scoured and scarred by wind action and large dune fields of high relief are present. These borrow areas consist entirely of windblown sand and fine silts. The area of borrow area #1 is relatively flat with a fine, black silt over sands. Borrow area #2 is entirely sand with a dense dune field to the immediate north of the borrow area. It lies on the edge of the dune field by an old channel scar of the Souris River.

The remaining Borrow Areas, #3, #6 and #7, are defined by Bluemle (1982) as Oahe Formation of the silt and sand facies. The borrow areas are on the low bottomlands and floodplains of the Souris River. The soils consist of a river deposited alluvium of bedded clays and silts. It is a modern overbank deposit which are commonly 25 feet or more in depth of organic silts and clays.

2.2 VEGETATION

The dominant vegetation unit in the study area closely corresponds to Kuchler's (1964) Northern Floodplain Forest, characterized by Populus-Salix-Ulmus. Elements of the Oak Savanna (Quercus-Andropogon) vegetation unit are also present. Bur oak (Q. macrocarpa) occurs in the wooded side coulees. Big and little bluestem (Andropogon gerardi) and (A. scoparius) are also frequently interspersed in forested areas. Floodplain forests usually are spread out in a thin belt, up to about one half mile wide in places, connecting intermittent one to 25 acre wooded patches which lie within oxbow meanders along the river. Low bottom species of the valley floor include American elm (Ulmus americanus), green ash (Fraxinus pennsylvanica), box elder (Acer negundo), and cottonwood (Populus spp.). Also present are black willow (Salix lutea) and western wildrose (Rosa woodsii). High bottom species cluster along the coulees adjacent to the river, and are dominated by wheatgrasses (Agropyron spp.) and gramma grasses (Bouteloua spp.). Low bottom areas in or near oxbows are interspersed throughout the floodplain forest, are not usually conducive to agriculture, and contain reeds (Calamagrostis inexpansa and Calmovilfa longifolia), blue gramma (Bouteloua gracilis), prairie cordgrass (Spartina pectinata) and sedges (Carex spp.). Other bottom areas may be converted to wild hay and used as pasture land.

The surrounding upland prairie maintains a wheatgrass-bluestem-needlegrass community (Agropyron-Andropogon-Stipa). Other common species of the prairie include Echinacea, Psoralea, and Solidago.

3.0 SUMMARY OF PREVIOUS INVESTIGATIONS

A literature and files search of the project areas was undertaken on April 26, 1989, by Nick G. Franke, at the North Dakota State Historical Society offices in Bismarck, North Dakota. The files search was centered on the seven project sections identified in Table 1 in McHenry County.

Files inspected at the State Historic Preservation Office included the National Register Listings, the site location catalog, the survey report catalog, and the uncataloged survey reports. All relevant survey reports were inspected.
The results indicated no previous surveys cataloged in the project area. However, the recordation of one site in the project area suggests a potential survey which is not currently in the State Historical Society manuscript collection.

The only recorded site is 32MH43, an architectural farmstead site recorded in July of 1988 by D. Gallacher. The site is located within the S½NW¼NE¼ of Section 6 T.154N., R.77W. This site was recorded as part of the Souris River Rural Improvements project conducted in 1988 for the project area. No further information on this survey or the survey report was available.

One site lead is listed in the file. The lead consists of the Star Post Office located in the NW¼SE¼ of Section 28 T.155N., R.77W. The lead was recorded by the Regional Environmental Assessment Program by Tweton in 1978. It does not lie within the project area.

None of the other areas of project inventories contained any sites, leads or previous surveys. The current survey of the borrow areas is the first professional investigation for cultural resources in these areas and little is currently known about these areas.

4.0 CULTURAL OVERVIEW

The following is a brief outline of the cultural framework for the prehistoric and historic periods for the project area under consideration. A full discussion of the cultural background for the project area can be found within the larger previous survey report from 1982 fieldwork (Floodman et al. 1985).

4.1 PREHISTORIC OVERVIEW

The primary sources for the cultural outline below are Reeves (1970), Willey (1966), Lehmer (1971), Frison (1978), and Syms (1977). The synopsis is brief, outlined within three broad cultural periods.

The Early Prehistoric Period (8500 B.C.-5500 B.C.) represents the earliest cultural period which can be conclusively demonstrated. This period is often referred to as the Paleo-Indian Period. The period is represented by three representative complexes: Clovis, Folsom, and Plano.

The Middle Prehistoric Period (5500 B.C.-A.D. 500) is often referred to as the Archaic period. It can be subdivided into Early, Middle, and Late Archaic stages. The Early Archaic is represented by the Mummy Cave/Logan Creek and the Oxbow complexes. The Middle Plains Archaic is highlighted by the appearance of the McKean Complex marked by the presence of McKean, Duncan, and Hanna projectile point styles. The Late Plains Archaic is noted by the appearance of the Pelican Lake Complex and later by the Besant/Sonota Complex. The Late Archaic is contemporaneous with the Middle Plains Woodland cultures which include the Sonota and Laurel complexes.

The Late Prehistoric Period (A.D. 500-A.D. 1800) is marked by changes in technology related to the appearance of the bow and arrow. Complexes associated with the Late Prehistoric Period include the Avonlea, Blackduck and Old Women's Complexes. Lehmer's (1971) Middle Missouri and Coalescent traditions noted from studies along the Missouri River, are features of this period as well. On the Northeastern Plains, the Devils Lake-Sourisford Complex is also present. The little known Mortlach

Complex or Aggregate is also a feature of the Late Prehistoric Period, as is the Cluny Complex. The period is also marked by a series of little known cultures showing a high degree of Canadian influences, as well as traits of the Middle Missouri cultures.

4.2 HISTORIC OVERVIEW

The historic period in the Souris River valley began with the first direct contact between Euro-Americans and the native tribes in the region. A long period of exploration followed during which the fur trade determined the nature of the relationship between the two cultural groups. While the territory changed hands from France to Spain to England to the United States, the area remained isolated and unsettled. With the discovery of gold in Montana in 1861, this began to change. Military forts were established along the Missouri River and attempts to open wagon trails to the Souris River area were made. Conflict with the Sioux prevented permanent settlements. Toward the end of the 1870s, the Sioux had been confined to reservations and railroads began building westward through the area. The arrival of the railroad resulted in the first Euro-American settlements in the area and was associated with range cattle in 1880. At the turn of the century, a second boom in settlement occurred, stimulated by the expansion of rail lines, platting of new townsites, and cash-crop agriculture. Adverse environmental and economic factors hurt the small ranches and farms, resulting in an out-migration of the area after 1910. The trend of abandonment continued through the 1920s. Towns such as Minot, Velva, and Sawyer developed as regional trade centers. The city of Sawyer developed from the 1890s expansion of railroads and became a post office in 1898. It was platted in 1902. The economy of Sawyer was boosted by lignite mining. Six mines operated within a ten mile radius of Sawyer in 1906. The above is summarized from Floodman et al. (1985).

5.0 GENERAL FIELD METHODOLOGY

The project borrow areas were located using the attached topographic figures from the COE (1989) scope-of-work. These maps and a county road map were utilized to locate the areas of projected borrow operations. The areas of impact were measured from the topographic maps and the extent was estimated in the field by pacing and topographic features. The surveys consisted of 100% on the ground coverage of each area sufficient to determine the presence/absence of any cultural resource located in the project borders.

The impact areas were carefully inspected using a pedestrian transect interval of no larger than 15 meters, as specified in the project scope-of-work. Exact methods varied slightly from project area to project area given the type or terrain, visibility, and features present. Closer intervals were utilized

in some areas and areas adjacent to, but outside of, the project areas were investigated in some instances, but at no time were larger intervals utilized than 15 meters. Outside areas at borrow area #7 were investigated as they offered fallow fields with 100% visibility adjacent to the grassy field of the borrow area. Surface areas of all projects were carefully scrutinized in surface visible areas. In pasture areas not previously turned over, careful attention was given to possible stone circle or cairn features. Open, cleared areas, cattle trails, wheel ruts, cutbanks, ditches, rodent mounds and backdirt were all carefully inspected in the transect areas--any surface offering a surface or subsurface view of the area. Cutbanks were limited to borrow area #3 where a canal had been cut along the east side of the project area north-south to the Souris River. The deep banks were checked for eroding materials, paleosols and evidence of buried cultural horizons.

Following the surface inspection, a subsurface inspection was conducted utilizing a small 1 inch diameter soil corer to a depth of 1 meter in project areas #3, #6 and #7. No subsurface testing with a shovel was conducted. The objective of the small diameter soil coring was to locate areas with potential of significant intact buried zones or paleosols. Several areas were randomly inspected and a transect at 15 meter intervals was conducted along the areas of the projects adjacent or closest to the river.

The project inventory was conducted by M. Floodman of Powers Elevation over the period of May 3-4, 1989.

6.0 BORROW AREAS AND RESULTS

The seven borrow areas proposed for the Souris River Basin Rural Improvements Project in McHenry County, North Dakota, are discussed individually in the sections below. The areas are described in detail and the results of the inventory are presented. The areas are discussed in numerical order as presented in Table 1.

6.1 BORROW AREA #1 NE¼NE¼NE¼ SECTION 11 T.157N., R.76W. 10 ACRES

This proposed project area is located on an open, flat and featureless plain about 0.5 miles west of the Souris River channel. The flat terrain is typical of the former lake bed of glacial Lake Souris. The area is uncultivated and is a grassy pasture area. The north half of the survey area is much greener and supports grasses and vegetation visibly different divided by a fenceline from the south half. The north half has probably undergone cultivation in the past, but direct evidence is lacking. The south is in native vegetation of short grasses, buckbrush, sage, forbs, etc.

The project area is covered by a fine sand and silt of aeolian origin. The upper 15 to 20 cm consist of a dark brown to black sandy silt. Beneath this layer is a brown sand. Overall visibility in this area is 30-40% with some areas of 50% and some as low as 20%. Visibility is primarily due to rodent borrows and backdirt mounds which are dense throughout the area. Also deflation and blowout areas are present which offer visibility and stratigraphy. The soils are extremely loose and sandy. The soil corer could not pick up an intact core of the soils.

No cultural materials, features or sites were recorded by the current project inventory. However, the borrow area lies adjacent to an historic/architectural site to the west and to the north across the graveled county road. This site lies outside of the project area and will not be effected by the borrow activities. It, therefore, was not recorded. The closest feature to the project area lies about 50 to 60 meters west of the survey tract.

Visibility was adequate to assess the presence of cultural sites due to the extensive rodent burrowing and backdirt mounds and to the eroded blowout areas. These exposures give a good surface and subsurface view of the area and of its potential for buried cultural materials. The lack of cultural materials is sufficient evidence for a lack of cultural sites in the project area. No further work in the borrow area is recommended.

6.2 SAND/GRAVEL #2 SW¼SW¼ SECTION 14 T.157N., R.76W. 20 ACRES

This survey area is irregular in shape and consists of a higher relief than borrow area #1. The survey area has over 20 feet of relief. The project consists of rolling hills bordered on the south by a field trail and the west by a graveled county road. The area is currently uncultivated pasture. It is difficult to discern if the area has ever been cultivated, but if it has, it was long ago. It is covered by grasses, sage, forbs, buckbrush, etc. This area is found about 2.5 miles west of the modern Souris River channel and is also on the relatively flat former plain of glacial Lake Souris.

The project soils are a sandy silty loam. Very little in the way of pebbles or rocks are present. The soils are the product of nearshore silt and sand deposited by the former glacial lake. An aeolian loess deposit covers much of the area. Visibility in the survey area was good to excellent, again due primarily to the heavy rodent and burrowing activity producing backdirt mounds which offer both a surface and subsurface view of the area. The road cut on the west side also offers a deep profile view of the project area and soils deposition. The project area exhibits some 30 cm of dark brown to black silt loam over most of the area and overlying a sandy silt of lighter brown color. On one hill on the northeast corner of the roadcut, this soil is overlain by a lighter aeolian silt about 20 cm in depth.

No cultural materials or features were observed during the project inventory. Visibility is adequate given the dense burrowing activity and the roadcut areas. Overall visibility is 40%. As no materials were encountered, it is unlikely this borrow area contains surface or subsurface cultural deposits. No further work in the area is recommended.

6.3 BORROW AREA #3 SE¼NE¼NW¼ SECTION 6 T.154N., R.77W. 8 ACRES

This proposed project area is found in the low bottom land of the floodplain of the Souris River. It is found immediately north of a large meander loop of the current channel of the Souris River and east of an older meander scar. The borrow area is a grassy meadow and hayfield adjacent to stands of floodplain forest along the river course. The area is cultivated and currently is a dense hay and grass meadow which has been harvested, resulting in a low grass cover. The area is perfectly flat with no relief except for the channel scars. A low, marshy stream course lies to the north which contains water. This area is drained by a channel which is dredged into the floodplain north to south along the east edge of the survey area and exits into the meander of the Souris River. The channel cut offers a deep profile of the project area in a north-south direction.

The project soils are a silty clay alluvium of overbank deposition from the Souris River. The silty clay alluvium is deep. A stratified soils profile is present near the south by the modern river channel. The stratified nature of the profile disappears to the north. The dark brown soils are not present except in this area. The soil cores taken across the area reveal no stratified areas in other places adjacent to the marshy channel on the north or the meander scar on the west.

Visibility over the project area was fair. Most areas offered surface visibility of 20% with some areas as low as 10% and others as high as 30%. No cultural materials were found in the survey from the surface or subsurface cutface of the canal trench. Nor was evidence of potentially buried and stratified sites found in the subsurface soil coring. Given this lack of cultural materials or evidence of cultural occupation, no further work is recommended at this project area. It lies northwest of the previously recorded architectural/historic site 32MH43.

6.4 SAND/GRAVEL #4 NW¼NE¼ SECTION 28 T.155N., R.77W. 12 ACRES

This project area is a flat plain located about 1.5 miles north of the modern Souris River channel. The area is an uncultivated pasture; however, it has been previously cultivated as evidenced by clearly defined dead furrows. It is bordered on the south and west by graveled county roads.

The project area consists of a dense gravel deposit on a fluvial plain. It is defined as a sand and gravel facies which is the result of deposition by flowing water from the discharge of waters from glacial Lake Regina. Thus, it is not truly an outwash plain, but it exhibits the same characteristics. The soils are shallow loams over the dense gravel deposit. All rodent mounds and visible surfaces contain dense gravel and pebbles.

Visibility over the project area is 20-30%. Grasses over the surface are sparse and heavily grazed. Numerous rodent mounds and deflation/erosion areas are present. No cultural materials or features were defined amid the dense gravel and course sands. Potential for significant buried cultural deposits is minimal. No further work is recommended.

6.5 BORROW AREA #5 SW¼NE¼SW¼ SECTION 27 T.155N., R.77W. 5 ACRES

This project area is about 0.25 miles from the modern channel of the Souris River and adjacent to a former meander of the river. The area consists of a rolling dune deposit of windblown sands. The rolling sand hills are not cultivated. The project area is utilized as a feed lot for cattle. High, rolling dunes characterize the area with stands of floodplain forest along the former meander.

Vegetation is sparse in the area of the project. The feedlot offers 50% visibility overall. The entire project area is a fine to medium sand. Soil cores could not be used as the sands are too loose to be retained by the corer.

No cultural materials or sites were recorded. The only cultural feature is a shed in the feedlot. The shed is not a significant enough feature to record as a site. The landowner, R. Anderson, moved the shed to the lot and it is not in historic context. It is set on the sand hill and no foundation is present. No other materials or features were present. Given the lack of cultural materials and the excellent visibility in the project area, no further work is recommended.

6.6 BORROW AREA #6 SW¼NE¼NW¼ SECTION 26 T.155N., R.77W. 9 ACRES

This project area is also located on the floodplain bottom land of the Souris River valley. It is found just south of the modern river channel and just east of a former meander scar. The meander scar is lined by floodplain forest. The remainer of the project survey area is within a cultivated field. The field consists of a sparse alfalfa crop. The surface of the survey area is flat with no relief present.

The area soils consist of silty clay loams of river alluvium from overbank deposits of the Souris River. Soils consist of a dark

brown silty clay plowzone to 20-30 cm over a lighter silty clay of undifferentiated alluvium. Soil cores showed no visible paleosols or stratified areas of high site potentials.

Visibility in the field is good to excellent. Overall visibility ranged from 30 to 50%. No surface materials were noted. The landowner was also interviewed and had no collections or knowledge of artifacts from the field area. One axehead was reported from the field to the south. Given the lack of cultural materials and potential for buried soils (paleosols), no further work is recommended.

6.7 BORROW AREA #7 SW¼ SECTION 24 T.155N., R.77W. 8 ACRES

This project area is also located on the low bottom land of the Souris River floodplain. It is located about 0.1 miles south of the modern river channel. The borrow site is found on the east edge of a small intermittent stream which joins the Souris to north. A smaller drainage which is not deeply entrenched lies to the east. The area lies to the immediate east along the driveway to the Nelson farmstead. The survey tract lies mostly within a large cultivated hayfield on the north and partially on uncultivated native prairie pasture on the south end.

The pasture area is heavily grazed. Deeply worn wheel ruts and cattle trails are present. Rodent mounds and deflated areas around trees are also present. The upper soils are exposed as a dark black silty loam. Grass, brush and cottonwoods of the floodplain forest are present. The cleared field area is a hayfield which is harvested and has sparse, short grasses remaining. Overall visibility is about 20-30% with areas of 50% in the pasture. A fallow, cultivated garden area lies on the northwest side of the driveway. This area was also walked as it offered 100% visibility along the stream channel.

The survey revealed no cultural materials or features. The Nelson farm lies to the north and is outside of the borrow area. Some farm machinery was parked on the northern edge of the tract, but this was not recorded. The soils are a river alluvium which lacks stratification and paleosols as evidenced from several soils cores taken across the field area. Given the lack of cultural materials, no further work is recommended.

7.0 CONCLUSIONS AND RECOMMENDATIONS

No cultural materials or sites were recorded by the Powers Elevation Co., Inc., survey of the seven proposed borrow areas for the rural improvements in McHenry County for the Souris Basin Project. The field methodology utilized and the surface conditions of the survey tracts are believed to be adequate for the location of cultural resource sites. Surface visibility was adequate in most areas for recordation of cultural sites. In

areas of low visibility and high buried potentials the survey was augmented by the use of small diameter soil cores.

Given the lack of recorded cultural materials, it is recommended that the proposed borrow operations in the project areas inventoried be allowed to proceed as planned.

8.0 REFERENCES CITED

Bluemle, J.P.
1982 The Geology of McHenry County, North Dakota. Bulletin 74 - Part I. North Dakota Geological Survey, Grand Forks.

Floodman, M., P. Friedman and K. Schweigert
1985 Final Report of the 1982 Cultural Resources Survey For the Lake Darling-Souris River Project, North Dakota. Prepared for St. Paul District Corps of Engineers. Powers Elevation Inc., Denver, Colorado.

Frison, G.
1978 Prehistoric Hunters of the High Plains. Academic Press, New York.

Kuchler, A.W.
1964 Potential Natural Vegetation of the Co-terminus United States. American Geological Society, Special Publication No. 36.

Lehmer, D.
1971 Introduction to Middle Missouri Archaeology. National Park Service, Anthropology Paper No. 1.

Reeves, B.O.K.
1970 Culture Change in the Northern Plains 100 B.C. to A.D. 1000. Unpublished Ph.D. Dissertation, University of Calgary.

Syms, E. Leigh
1977 Cultural Ecology and Ecological Dynamics of the Ceramic Period in Southwestern Manitoba. Plains Anthropologist 22(79) Memoir 12, Part 2.

U.S. Department of the Army, Corps of Engineers
1989 Scope of work: Phase I Cultural Resources Investigation of Initial Group of Proposed Borrow Areas, For Rural Improvements, Stage 1, Souris River Basin Project, North Dakota. St. Paul District, Corps of Engineers, St. Paul, Minnesota.

Willey, G.
1966 An Introduction to American Archaeology. Prentice-Hall, Englewood Cliffs, New Jersey.

APPENDIX:

Scope of Work

SCOPE OF WORK
PHASE I CULTURAL RESOURCES INVESTIGATION
OF INITIAL GROUP OF PROPOSED BORROW AREAS,
FOR RURAL IMPROVEMENTS, STAGE 1,
SOURIS RIVER BASIN PROJECT, NORTH DAKOTA

1.00 INTRODUCTION

1.01 The Contractor will undertake a Phase I cultural resources investigation of the first group of borrow areas selected for use in constructing flood-proofing improvements (ring levees and/or road raises) at various rural residences along the Souris River in North Dakota as part of the Souris River Basin Project.

1.02 This investigation partially fulfills the obligations of the Corps of Engineers (Corps) regarding cultural resources, as set forth in the National Historic Preservation Act of 1966 (Public Law [PL] 89-665), as amended; the National Environmental Policy Act of 1969 (PL 91-190); Executive Order (EO) 11593 for the "Protection and Enhancement of the Cultural Environment" (Federal Register, May 13, 1971); the Archeological and Historical Preservation Act of 1974 (PL 93-291); the Advisory Council on Historic Preservation "Regulations for the Protection of Historic and Cultural Properties" (36 CFR, Part 800); and the applicable Corps regulations (ER 1105-2-50).

1.03 The laws listed above establish the importance of Federal leadership, through the various responsible agencies, in locating and preserving cultural resources within project areas. Specific steps to comply with these laws, particularly as directed in PL 93-291 and EO 11593, are being taken by the Corps "... to assure that Federal plans and programs contribute to the preservation and enhancement of non-federally owned sites, structures, and objects of historical, architectural, or archeological significance." A part of that responsibility is to locate, inventory, and nominate to the Secretary of the Interior all such sites in the project area that appear to qualify for listing on the National Register of Historic Places.

1.04 EO 11593 and the 1980 amendments to the National Historic Preservation Act further direct Federal agencies "... to assure that any federally owned property that might qualify for nomination is not inadvertently transferred, sold, demolished or substantially altered." In addition, the Corps is directed to administer its policies, plans, and programs so that federally and non-federally owned sites, structures, and objects of historical, architectural, or archeological significance are preserved and maintained for the inspiration and benefit of the people.

1.05 This cultural resources investigation will serve several functions. The report will be a planning tool to aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It will be a

comprehensive, scholarly document that not only fulfills federally mandated legal requirements but also serves as a scientific reference for future professional studies. It will identify resources that may require additional investigations and that may have potential for public-use development. Thus, the report must be analytical, not just descriptive.

2.00 PROJECT DESCRIPTION

2.01 The authorized Souris River Basin Project is a flood control project for urban and rural reaches of the Souris River in North Dakota. The project involves flood control features in both the United States and Saskatchewan, Canada.

2.02 Features in Canada include the construction of the Alameda and Rafferty reservoirs for flood storage and the operation of a diversion channel between the Boundary reservoir and the Rafferty reservoir.

2.03 Features in the United States include modification of the gated outlet structure at the existing Lake Darling Dam; mitigation of project-related impacts to U.S. Fish and Wildlife Service lands by making structural improvements to various dams, spillways, and other flood control structures in the Upper Souris and J. Clark Salyer Wildlife Refuges; mitigation of project-related impacts to farmsteads upstream and downstream of Lake Darling; and a water control plan for the safe release of water downstream. The overall project also includes flood control levees at Renville County Park, at Sawyer and Velva, North Dakota, and between Burlington and Minot, North Dakota, as well as channel modification at Minot. Construction of the Velva levee and the Minot channel modification have already been completed.

2.04 The purchase and operation of flood storage in Saskatchewan is a joint effort between Canada and the United States. When construction is completed in 1991, the project will provide water supply and flood control benefits to the Province of Saskatchewan, provide 100-year flood protection to the city of Minot, North Dakota, and significantly reduce flood damages along the main stem of the Souris River in North Dakota.

2.05 Cultural resources surveys have been conducted for the majority of the project features discussed above. In addition, Saskatchewan has conducted cultural resources investigations of the proposed Alameda and Rafferty reservoirs in Canada.

2.06 The lands to be surveyed for this contract are some of the borrow areas and sand and gravel sources selected for use in connection with the mitigation of impacts to farmsteads and rural residences upstream and downstream of Lake Darling. Proposed measures to mitigate damages to farmsteads and rural residences include raising access roads, constructing ring levees around primary farm and/or rural residences, raising primary farm and rural residences, and the acquisition of primary farm and rural residences. Farm outbuildings will not be protected under the project. The purpose of the mitigation is to alleviate damages associated with increased discharges from the Canadian dams. It will not protect the

farmsteads from existing flood events. The actual farmsteads and rural residences where these rural improvements will take place were checked for cultural resources in 1988.

2.07 A total of 72 acres is to be surveyed for cultural resources under this contract. Specific locations and sizes of the individual borrow areas and sand and gravel sources to be surveyed are as follows:

(on U.S.G.S. 7.5' Towner NW quad)

Borrow Area	NE1/4NE1/4NE1/4, Sec. 11, T157N, R76W, McHenry Co.	10 acres
Sand/Gravel	SW1/4SW1/4, Sec. 14, T157N, R76W, McHenry County	20 acres

(on U.S.G.S. 7.5' Karlsruhe NE quad)

Borrow Area	SE1/4NE1/4NW1/4, Sec. 6, T154N, R77W, McHenry Co.	8 acres
Sand/Gravel	NW1/4NE1/4, Sec. 28, T155N, R77W, McHenry Co.	12 acres
Borrow Area	SW1/4NE1/4SW1/4, Sec. 27, T155N, R77W, McHenry Co.	5 acres
Borrow Area	SW1/4NE1/4NW1/4, Sec. 26, T155N, R77W, McHenry Co.	9 acres
Borrow Area	SE1/4NW1/4SW1/4, SW1/4NE1/4SW1/4, NE1/4SW1/4SW1/4, and NW1/4SE1/4SW1/4, Sec. 24, T155N, R77W, McHenry	8 acres

3.00 DEFINITIONS

3.01 Cultural Resources include any building, site, district, structure, object, data, or other material relating to the history, architecture, archeology, or culture of an area.

3.02 A Phase I Cultural Resources Investigation is an intensive, on-the-ground study of an area sufficient to determine the number and extent of the resources present and their relationships to project features. It will provide (1) data adequate to assess the general nature of the sites present; (2) recommendations for additional testing of those resources that may provide important cultural and scientific information; and (3) detailed time and cost estimates for Phase II testing.

3.03 Phase II Testing is the intensive testing of a resource that may provide important cultural or scientific information. This testing will result in (1) information adequate to determine whether the resource is eligible for inclusion on the National Register of Historic Places; (2) a Phase III mitigation plan for any eligible resources that will undergo a direct or indirect impact; and (3) detailed time and cost estimates for the mitigation.

3.04 Phase III Mitigation is the mitigation of the direct or indirect impacts of construction upon eligible sites through the systematic removal of data. It typically includes the excavation of either complete cultural deposits or a systematic sample of them and the thorough analysis and interpretation of the data recovered. The excavation, analysis, and interpretation methods must be adequate to address the important research questions based on which the resource was determined eligible. In

addition, because the mitigation process destroys the resource, data should be recovered that may be needed to address future research questions.

4.00 SURVEY REQUIREMENTS

4.01 The Contractor will conduct a Phase I cultural resources investigation of the borrow areas and sand and gravel sources selected for use in conjunction with rural improvements at various farmsteads and rural residences upstream and downstream of Lake Darling, in accordance with Sections 2.07 and 3.02 above.

4.02 The Contractor's work will be subject to the supervision, review, and approval of the Contracting Officer's representative.

4.03 The Contractor will employ a systematic, interdisciplinary approach in conducting the study, using techniques and methods that represent the current state of knowledge for the appropriate disciplines. The Contractor will provide specialized knowledge and skills as needed, including expertise in archeology, history, and other social and natural sciences.

4.04 The Contractor will provide all materials and equipment necessary to perform the required services expeditiously.

4.05 The Contractor's survey will be an on-the-ground examination sufficient to determine the number and extent of any cultural resources present, including standing structures as well as prehistoric and historic archeological sites.

4.06 The Contractor's survey will include surface inspection in areas where surface visibility is adequate to reveal any cultural materials that are present and subsurface testing in all areas where surface visibility is inadequate. Subsurface investigation will include shovel testing, coring, soil borings, cutbank profiling, or other appropriate methods. If the field methods used vary from those that are required, they must be described and justified in the Contractor's report.

4.07 The survey interval required for subsurface testing is 15 meters (50 feet). However, this interval may vary depending upon field conditions, site density, or size. If a larger interval is used, this decision must be justified in the Contractor's report.

4.08 The Contractor will screen all subsurface tests through 1/4-inch mesh hardware cloth.

4.09 The Contractor will return all surveyed areas as closely as practical to presurvey conditions.

4.10 The Contractor will recommend any Phase II testing measures that are warranted, including time and cost estimates.

4.11 If it becomes necessary in the performance of the work and services, the Contractor will, at no cost to the Government, secure the rights of

ingress and egress on properties not owned or controlled by the Government. The Contractor will secure the consent of the owner, or the owner's representative or agent, in writing prior to effecting entry on such property. If requested, a letter of introduction signed by the District Engineer can be provided to explain the project purposes and request the cooperation of landowners. Where a landowner denies permission for survey, the Contractor must immediately notify the Contracting Officer's representative and must describe the extent of the property to be excluded from the survey.

4.12 The Contractor must keep standard records that include field notes and maps, site survey forms, subsurface testing forms, and photographs.

4.13 State site forms will be prepared for all sites discovered during the survey, and records on previously reported sites will be updated if new information is obtained. Data should be included on the present condition of each site and on the contents and locations of any collections from it. The Contractor will also submit all site forms and updates to the appropriate State agency.

4.14 Cultural materials and associated records from the study should be curated at an institution that can ensure their preservation and make them available for research and public view. Curation should be within the State and as close as possible to the project area. The Contractor will be responsible for making curatorial arrangements, coordinating them with the appropriate officials of North Dakota, and obtaining approval from the Contracting Officer's representative.

5.00 GENERAL REPORT REQUIREMENTS

5.01 The Contractor will submit the following documents, described in this section and Section 6.00: a field report, field notes, a draft contract report, and a final contract report.

5.02 The Contractor's field report will be a brief summary of the nature, extent, and results of the field work conducted. It will be in the form of a telephone call to the Contracting Officer's representative.

5.03 The Contractor's field notes will include legible copies of important notes and records kept during the investigation. Especially important are the daily field journal of the Principal Investigator or field director, field site survey forms, and subsurface testing forms. One copy of these notes should be submitted to the Contracting Officer's representative with the draft contract report but should not be bound into the report.

5.04 The draft contract report will detail the approach, methods, and results of the investigation, and make recommendations for further work. It will be submitted to the Contracting Officer's representative, who will review it and forward it to other appropriate agencies for review. Comments will be returned to the Contractor, who will make the necessary revisions and submit the final contract report.

5.05 The Contractor's draft and final reports will include the following sections, as appropriate to the study. The length of each section depends on the level of detail required of the study and the amount of information available. The reports should be as concise as possible, yet provide all the information needed for evaluating and managing the project and for future reference.

a. Title page: The title page will provide the following information: the type of study; the types of cultural resources assessed (archeological, historical, and architectural); the project name and location (county and state); the date of the report; the Contractor's name; the contract number; the name of the author(s) and/or Principal Investigator; the signature of the Principal Investigator; and the agency for which the report is being prepared.

b. Table of contents

c. List of figures

d. List of plates

e. Introduction: This section will identify the sponsors (Corps of Engineers) and their reason for the study and present an overview of the study with each site located on USGS quad maps. It will also define the location and boundaries of the study area (using regional and area-specific maps); define the study area within its regional cultural and environmental context; reference the scope of work; identify the institution that did the work and the number of people and person-days/hours involved; give the dates when the various phases of the work were completed; identify the repository of records and artifacts; and provide a brief outline of the report and an overview of its major goals.

f. Previous archeological and historical studies: This section will briefly summarize and evaluate previous archeological and historical research in the immediate study area including the researchers, dates, extent, adequacy, and results of past work and any cultural/behavioral inferences derived from it.

g. Environmental background: This section will briefly describe the current and prehistoric environment of the study area, including its geology, vegetation, fauna, climate, topography, physiography, and soils. The relationship of the environmental setting to the area's prehistory and history should be stressed. The level of detail in this section will be commensurate with that of the other report sections.

h. Theoretical and methodological overview: This section will state the goals of the sponsor and the researcher, the theoretical and methodological orientation of the study, and the research strategies that were applied to achieve the goals.

i. Field methods: This section will describe all field methods, techniques, and strategies and the reasons for using them. It will also

describe field conditions, relevant topographic/physiographic features, vegetation conditions, soil types, stratigraphy, general survey results, and the reasons for eliminating any uninvestigated areas.

j. Laboratory and analysis methods: This section will explain the laboratory methods employed and the reasons for selecting them. It will reference accession or catalog numbers of any collections, photographs, or field notes obtained during the study and state where these materials are permanently housed. It will also describe and justify the specific analytical methods used, including any quantitative analysis of the data, and discuss limitations or problems with the analysis.

k. Results: This section will describe all cultural resources found during the study. It will minimally include each site's description (including size, depth, and artifact density); its location (USGS quad, legal description, elevation, and address if appropriate); the amounts and types of remains recovered; its environmental setting; its current condition; the direct and indirect impacts of the project upon it; and any additional interpretations (e.g., site type, cultural components, and human behavioral information).

l. Evaluation and conclusions: This section will formulate conclusions about the location, size, condition, and distribution of the resources found; their relationships to other sites in the area; and their possible importance in terms of local and regional prehistory, protohistory, and history. It will also relate the results of the study to the stated goals; identify any changes in the goals; assess the reliability of the analysis; and discuss the potential of and goals for future research.

m. Recommendations: This section will recommend any further work deemed necessary. It will summarize Phase II evaluation measures that would be needed to determine whether specific resources are eligible for the National Register of Historic Places, as well as a time and cost estimate for this work. It will also describe any areas that were inaccessible, and recommend future treatment of them. If the Contractor concludes that no further work is needed at any site, the evidence and reasoning supporting this recommendation will be presented.

n. References: This section will provide bibliographic references in American Antiquity format for every publication cited in the report. References not cited in the report may be listed in a separate "Additional References" section.

o. Appendix: This section will include the Scope of Work, resumes of project personnel, copies of all correspondence relating to the study, and any other pertinent information referenced in the text. It will also include State site forms for all sites identified during the survey, including find spots and previously recorded sites.

p. Figures: The location of all sites and other features discussed in the text will be shown on a legibly photocopied USGS map bound into the

report. In addition, the locations of all subsurface tests will be indicated on maps of appropriate scale and detail and keyed to the subsurface testing forms included with the field notes. Other recommended figures are regional and project maps, photographs of the project area, and line drawings or photographs of diagnostic artifacts, structures, and unit or feature profiles.

q. Tables: The report should include tables of cultural materials by site and provenience (for example, excavation unit and level). Information that may require more detailed tabulation includes lithic tool types and raw materials, ceramic attributes, and floral and faunal remains.

5.06 A cover letter submitted with the final contract report will include the project budget.

5.07 The Contractor will submit to the Contracting Officer's representative the negatives for all photographs that appear in the final report.

6.00 REPORT FORMATS

6.01 The field report for this particular contract will consist of a telephoned report of the survey results made by the Contractor to the Contracting Officer's representative on the next working day following completion of field work.

6.02 There are no format requirements for the field notes; however, they must be legible. If the original handwritten notes are illegible, they should be typed.

6.03 Formats for both the draft and final contract reports are as follows:

a. The Contractor will present information in whatever textual, tabular, or graphic forms are most effective for communicating it.

b. The draft and final reports will be divided into easily discernible chapters, with appropriate page separations and headings.

c. The report text will be typed, single-spaced (the draft report should be space-and-one-half or double-spaced), on good quality bond paper, 8.5 inches by 11.0 inches, with 1.5-inch binding and bottom margins and 1-inch top and outer margins, and may be printed on both sides of the paper. All pages will be numbered consecutively, including plates, figures, tables, and appendices.

d. All illustrations must be clear, legible, self-explanatory, and of sufficiently high quality to be reproduced easily by standard xerographic equipment, and will have margins as defined above. All maps must be labeled with a caption/description, a north arrow, a scale bar, township and range, map size and dates, and map source (e.g., the USGS quad name or published source). All photographs or drawings should be clear, distinct prints or copies with captions and a bar scale.

7.00 MATERIALS PROVIDED

7.01 The Contracting Officer's representative will furnish the Contractor with access to any publications, records, maps, or photographs that are on file at the St. Paul District headquarters that are appropriate to the study being undertaken.

8.00 SUBMITTALS

8.01 The field work completion date for this project will be May 12, 1989. The Contractor will contact the Contracting Officer's representative at least 5 days before the field work begins to discuss the work schedule and plans.

8.02 The Contractor will submit reports according to the following schedules:

a. Field report: The Contractor will phone the Contracting Officer's representative on the next working day following completion of field work with the results of the survey, i.e., whether cultural resources were found within any of the proposed borrow areas or sand and gravel source areas.

b. Draft contract report: Five (5) copies of the draft contract report will be submitted no later than 20 days after completion of the field work. The draft contract report will be reviewed by the Corps of Engineers, the State Historic Preservation Officer, the State Archeologist, and the National Park Service. The draft contract report will be submitted according to the report and contract specifications outlined in this scope of work.

c. Project field notes: One legible copy of all the project field notes will be submitted with the draft contract report.

d. Final contract report: The original and 15 copies of the final report will be submitted within 30 days after the Contractor receives the Corps of Engineers comments on the draft report. The final report will incorporate all the comments made on the draft report.

9.00 CONDITIONS

9.01 Failure of the Contractor to fulfill the requirements of this Scope of Work will result in rejection of the Contractor's report and/or termination of the contract.

9.02 Neither the Contractor nor his representative shall release any sketch, photograph, report, or other materials of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer's representative prior to the acceptance of the final report by the Government. Dissemination of survey results through papers at professional meetings and publication in professional journals is encouraged. However, professional discretion should be used in releasing

information on site locations where publication could result in damage to cultural resources.

9.03 All materials, documents, collections, notes, forms, maps, etc., that have been produced or acquired in any manner for use in the completion of this contract shall be made available to the Contracting Officer's representative upon request.

9.04 Principal investigators will be responsible for the validity of material presented in their reports. In the event of controversy or court challenge, the principal investigator(s) will be placed under separate contract to testify on behalf of the Government in support of the findings presented in their reports.

9.05 The Contractor will be responsible for adhering to all State laws and procedures regarding the treatment and disposition of human skeletal remains. If human remains are encountered, the Contracting Officer's representative will be contacted immediately. Any human remains recovered will be treated with respect and will not be placed on public display.